

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): An implantable microfabricated sensing device capable of being entirely implanted within a human body ~~sensor device~~ for measuring a physiologic parameter of said human body, said sensing device comprising a biocompatible monolithic structure ~~interest within a patient, said sensor~~ comprising:

a substrate;

a sensor integrally microfabricated ~~formed~~ with said substrate and being responsive to the physiologic parameter; ~~the sensor having a fixed electrode and a moveable electrode wherein the sensor is configured to sense a capacitance corresponding to a physiologic parameter;~~

at least one conductive path ~~paths~~ integrally formed with said substrate and said sensor; and

active circuitry microfabricated in ~~close~~ proximity to said sensor and electrically connected to said sensor by said conductive path.

Claim 2 (canceled)

Claim ³~~3~~ (currently amended): The sensing ~~sensor~~ device of claim ³⁵~~30~~ ~~claim 1~~ wherein said fixed electrode is ~~formed as~~ a conductive layer on said substrate.

Claim ³~~4~~ (currently amended): The sensing ~~sensor~~ device of claim 1 wherein said sensor comprises ~~is at least partially formed of~~ a cap layer on said substrate.

Claim ⁴~~5~~ (currently amended): The sensing ~~sensor~~ device of claim ³~~4~~ wherein said cap layer includes portions defining a diaphragm of said sensor.

Claim ⁵~~6~~ (currently amended): The sensing ~~sensor~~ device of claim ³~~4~~ wherein said active circuitry is integrally fabricated in said substrate. ~~with said sensor.~~

Claim ⁶~~7~~ (currently amended): The sensing ~~sensor~~ device of claim ³~~4~~ wherein said cap layer is formed of monocrystalline silicon.

Claim ⁷~~8~~ (currently amended): The sensing ~~sensor~~ device of claim ³~~4~~ wherein said cap layer is boron doped silicon.

Claim ⁸~~9~~ (currently amended): The sensing ~~sensor~~ device of claim ³⁵~~30~~ ~~claim 1~~ wherein said fixed and moveable electrodes define an interior volume therebetween and a

surface cavity in ~~portion of~~ said substrate defines ~~define~~ a displacement cavity in
communication with said interior volume.

⁹
Claim ~~10~~ (currently amended): The sensing ~~sensor~~ device of ³⁵~~claim 36~~ claim ~~1~~
wherein said fixed electrode includes a main electrode and at least one reference electrode.

¹⁰
Claim ~~11~~ (currently amended) The sensing ~~sensor~~ device of claim 1 wherein
said sensing device is entirely implanted within said human body and is operating to measure
the physiologic parameter within said human body. ~~monolithic.~~

¹¹
Claim ~~12~~ (currently amended): The sensing ~~sensor~~ device of claim 1 further
comprising a cap layer formed over said substrate.

¹²
Claim ~~13~~ (currently amended): The sensing ~~sensor~~ device of claim ¹¹~~12~~ wherein
said cap layer includes a portion defining a moveable electrode of said sensor.

¹³
Claim ~~14~~ (currently amended): The sensing ~~sensor~~ device of claim ¹¹~~12~~ wherein
said cap layer is conductive.

¹⁴
Claim ~~15~~ (currently amended): The sensing ~~sensor~~ device of claim ¹¹~~12~~ wherein

said cap layer is doped silicon.

¹⁵
Claim ~~16~~ (currently amended): The sensing ~~sensor~~ device of claim 1 wherein
said sensor is a pressure sensor.

¹⁶
Claim ~~17~~ (currently amended): The sensing ~~sensor~~ device of claim 1 wherein
said sensor is a temperature sensor.

¹⁷
Claim ~~18~~ (currently amended): The sensing ~~sensor~~ device of claim 1 wherein
said sensor is a chemical sensor.

¹⁸
Claim ~~19~~ (currently amended): The sensing ~~sensor~~ device of claim 1 further
comprising a cap layer bonded to said substrate, said active circuitry being integrally formed
in said cap layer. ~~wherein said active circuitry is integrally formed within a cap layer over~~
~~said substrate.~~

¹⁹
Claim ~~20~~ (currently amended): The sensing ~~sensor~~ device of claim 1 wherein
said active circuitry is integrally formed in said substrate. ~~with said substrate.~~

²⁰
Claim ~~21~~ (currently amended): The sensing ~~sensor~~ device of claim 1 wherein

said active circuitry is mounted to said substrate.

21
Claim 22 (currently amended): The sensing ~~sensor~~ device of claim 21 wherein
20
said active circuitry is received within a recess defined in said substrate.

22
Claim 23 (currently amended): The sensing ~~sensor~~ device of claim 1 further
22
comprising at least two sensors.

23
Claim 24 (currently amended): The sensing ~~sensor~~ device of claim 23 wherein
22
said two sensors sense the same physiologic parameter.

24
Claim 25 (currently amended): The sensing ~~sensor~~ device of claim 23 wherein
22
said two sensors sense different physiologic parameters.

25
Claim 26 (currently amended): The sensing ~~sensor~~ device of claim 1 wherein
said sensor is a capacitive sensor having a fixed electrode and a moveable electrode, said
fixed and moveable electrodes being electrically coupled by first and second conductive paths
to said active circuitry, said first and second paths being electrically isolated from one
another.

²⁶
Claim ~~27~~ (currently amended): The sensing ~~sensor~~ device of claim ²⁵~~26~~ wherein said paths are isolated by a dielectric layer therebetween.

²⁷
Claim ~~28~~ (currently amended): The sensing ~~sensor~~ device of claim ²⁵~~26~~ wherein said paths are isolated by a p-n junction structure.

²⁸
Claim ~~29~~ (currently amended): The sensing ~~sensor~~ device of claim ²⁵~~26~~ wherein said sensor operates in a proximity mode whereby the fixed electrode and the moveable electrode do not contact each other when responding to the physiologic parameter.

²⁹
Claim ~~30~~ (currently amended): The sensing ~~sensor~~ device of claim ²⁵~~26~~ wherein said sensor operates in a touch mode whereby the fixed electrode and the moveable electrode progressively contact each other when responding to the physiologic parameter.

³⁰
Claim ~~31~~ (currently amended): The sensing ~~sensor~~ device of claim 1 further comprising a bioinert coating over a majority of exterior surfaces of said sensor.

³¹
Claim ~~32~~ (currently amended): The sensing ~~sensor~~ device of claim 1 further comprising a housing defining a form ~~form~~ factor providing an external shape to said sensing device that differs from the monolithic structure.

³²
Claim ~~32~~ (currently amended): The sensing ~~sensor~~ device of claim ³¹~~32~~ wherein
said housing is of a non-rigid material.

³³
Claim ~~34~~ (currently amended): The sensing ~~sensor~~ device of claim ³¹~~32~~ wherein
said housing is a plastic material. ~~of plastic.~~

³⁴
Claim ~~35~~ (currently amended): The sensing ~~sensor~~ device of claim ³¹~~32~~ wherein
said housing comprises a recess providing intimate access to the sensor. ~~is soft.~~

³⁵
Claim ~~36~~ (new): The sensing device of claim 1 wherein said sensor is a
capacitive sensor having a fixed electrode and a moveable electrode.